Lynch et al. "Strategies for Refinement of Occupational Exposure Evaluation in the EPA TSCA Risk Evaluation Process"

Supplemental Tables and Figures

S.1 Sample sizes by NAICS/SIC codes identified in OSHA data set

Category	NAICS Code	Number of Samples	NAICS Title	SIC Crosswalk(s)
1	811420	297	Reupholstery and Furniture Repair	7641
2	326199	186	All Other Plastics Product Manufacturing	3069; 3089; 3996
3	337110	156	Wood Kitchen Cabinet and Countertop Manufacturing	2434; 2541; 5712
4	325998	115	All Other Miscellaneous Chemical Product and Preparation Manufacturing	2819; 2869; 2899
5	926150	113	Regulation, Licensing, and Inspection of Miscellaneous Commercial Sectors	9651
6	337127	100	Institutional Furniture Manufacturing	2531; 2599
7	337215	83	Showcase, Partition, Shelving, and Locker Manufacturing	2542
8	339950	70	Sign Manufacturing	3993
9	541380	66	Testing Laboratories	8734
10	326150	65	Urethane and Other Foam Product (except Polystyrene) Manufacturing	3086

Table S.2 Geometric Mean (GM), geometric standard deviation (GSD) of DCM and number of samples (n) for the top three NAICS/SIC industry categories, separated by time period (Pre-Implementation, Transition, and Post-Implementation)

Industry	Pre-Implementation			Transition			Post-Implementation			% Difference[1]	KW Test p-value
	n	GM (ppm)	GSD	n	GM (ppm)	GSD	n	GM (ppm)	GSD		
All Other Plastics Product Manufacturing	22	14.90	6.28	13	3.40	0.69	155	7.13	1.19	52.14%	0.2799
Reupholstery and Furniture Repair	131	211.89	24.65	7	85.45	33.47	385	58.60	5.24	72.34%	<0.0001
Wood Kitchen Cabinet and Countertop Manufacturing	21	36.73	8.48	-	-	-	153	17.70	2.33	51.81%	0.0765

All Other Categories	2504	37.87	1.42	511	28.57	2.29	3234	17.49	0.52	53.82%	<0.0001

Notes: GM = geometric mean; GSD = geometric standard deviation; n = number of samples; KW= Kruskal-Wallis. [1]Percent difference reflects the reduction in the GM from Pre-Implementation to Post-Implementation. α=0.05

Notably, EPA revised its statistical analysis of pre- and post-OSHA data for the final risk evaluation for DCM.[1] However, EPA continued to rely on the historical data in the final DCM risk evaluation, assigning the data a lower weight in some categories, lowering the overall confidence level in the source.

Table S.3 Summary Statistics for Task-Length Samples from 2018 HSIA Manufacturing Monitoring Data for PCE[a]

	Daily or Frequent	Weekly or Bi-Weekly	Infrequent or Varies
Sample Count[b]	77	69	35
Average Duration (min)	17.1	16.4	15.54
Average Concentration (ppm)	3.21	5.74	10.19
Standard Deviation (ppm)	4.43	12.22	33.22
Minimum	0.03	0.11	0.28
Maximum	28	80	200
Average of Ln Concentration	0.39	0.40	1.37
St. Dev. of Ln Concentration	1.32	1.73	1.05
Geometric Mean	1.47	1.49	3.92
Geometric SD	3.73	5.63	2.87

[a] Task-length descriptors were provided in the dataset (HSIA, 2018).
[b] Fourteen (n=14) task-length samples did not specify frequency and were not included in this table.

[1] Specifically, EPA stated in its public comment response document20. EPA U. Summary of External Peer Review and Public Comments and Disposition for Perchloroethylene (PCE) Response to Support Risk Evaluation of Perchloroethylene (PCE). Available from: https://www.epa.gov/sites/production/files/2020-12/documents/2_summary_of_external_peer_review_and_public_comments_and_disposition_for_for_perchloroethylene_pce_response_to_support_risk_evaluation_for_perchloroethylene_pce_0.pdf. . In. Washington, D.C.: U.S. Environmental Protection Agency (EPA)-Office of Chemical Safety and Pollution Prevention, 2020g., that the data were cleaned (i.e., excluded personal samples and those with no units of measurement) and analyzed by NAICS code to show differences between NAICS codes. EPA noted "a range of exposure reductions across most industry sectors and increases for several sectors. The largest decreases were for spot cleaning (94.5%), fabric finishing (93.4%), and use of adhesives (50.6%). On the other hand, exposures increased for plastics manufacturing (617%) and aerosol degreasing (130%)."